

GAS Leak

Genuinely Approachable Sudoku from the CtC Discord
Volume 10: December 4, 2021 - December 23, 2021



Good morning, friends! Pour yourself a mug of hot cocoa, put on your coziest party hats, and join us for the tenth edition of GAS Leak. This volume collects days 181 to 200 of GAS, plus three bonus puzzles that came out just a bit overcooked (but still delicious, as long as you add extra sprinkles on top). Thank you all for making the last 200 days so much brighter. Even though puzzles can be frustrating from time to time, you all continue to be kind to us, to each other, and to yourselves - and for that, I feel grateful every single day. I hope that you and yours have a warm and happy holiday with lots of lovely puzzly goodness!

- *Clover*

December 4, 2021: Triplet Sum Sudoku

Sam Cappleman-Lynes

The Rule of Three suggests that things that come in threes are more humorous or satisfying than those that come in other quantities. I suppose that's why buses like to come in threes 🤔

Today's puzzle also has lots of things coming in groups of three. In this Triplet Sum Sudoku, normal Sudoku rules apply. Additionally, whenever a clue is given outside a row or column, there must be three consecutive cells in that row/column which add up to the clue.

	6			22			7		
8						2			24
				1					
23		2							14
22			1				2		10
24								1	16
					2				
8				1					21
	24	8	23	21					

f-puzzles: <https://f-puzzles.com/?id=y6gmulvs>

CtC: <https://tinyurl.com/2p8t5z9k>

Penpa: <https://git.io/JMQYy>

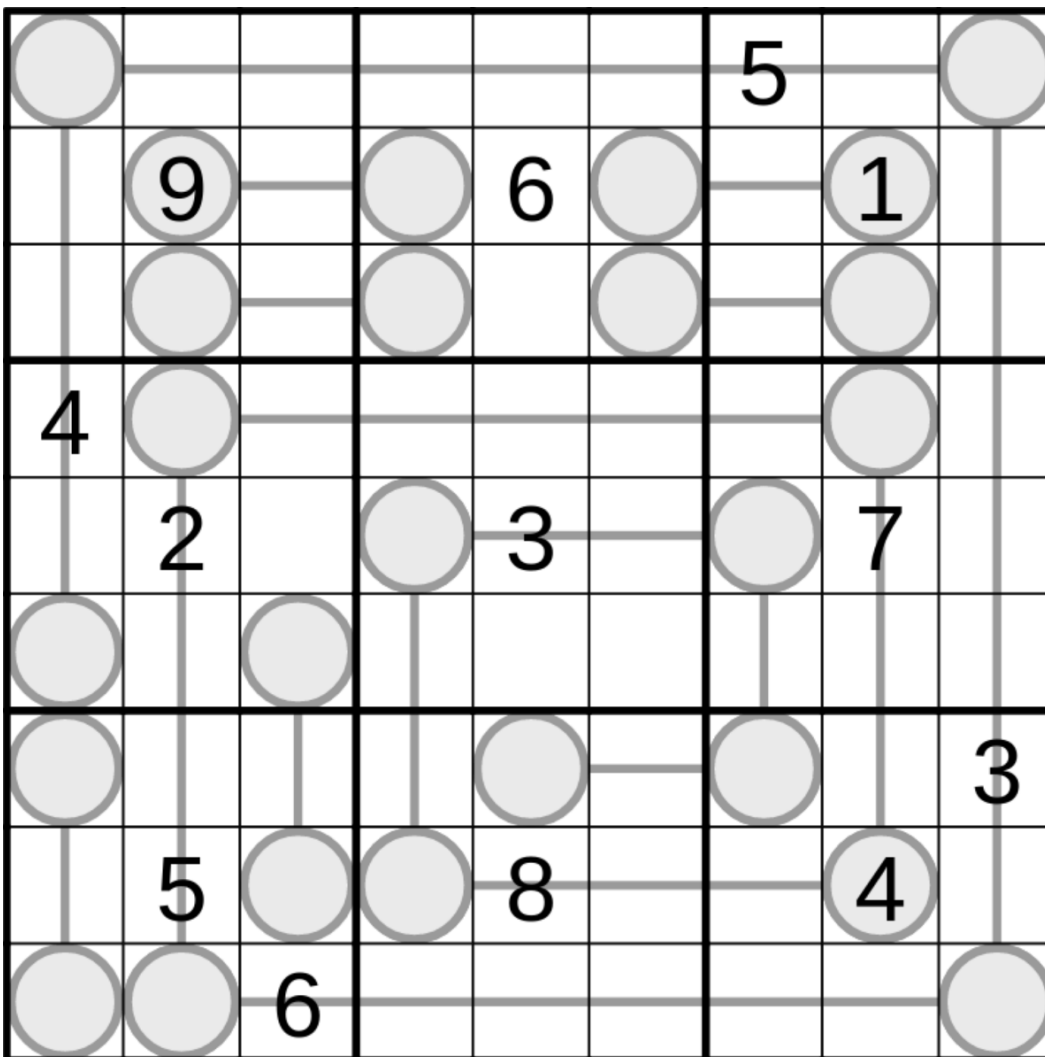
December 5, 2021: The Letter K

Philip Newman

Luke (my 5-year-old son) named today's puzzle. Do you see what he sees? (I do not. Good luck to Mark trying to figure this one out.)

Today we have a Between Line Sudoku! This one may be on the longer side for some, so don't be discouraged if it feels like it's taking longer than a GAS "should". You can do it!

Normal sudoku rules apply. Digits along a line must have values strictly between the values in the circles on the ends of that line.



Play on f-puzzles: <https://f-puzzles.com/?id=y4jvqjl2>

Play on CTC App: <https://tinyurl.com/2p8m5nkb>

December 6, 2021: True or Lie Sudoku

Clover

Today we'll be playing a game of 'two truths and a lie'. I'll start:

- Simon is Phistomefel; he started Cracking the Cryptic to bring attention to his own puzzles, but now he's in too deep and has to keep up the charade.
- GAS is an elaborate front for a cryptocurrency mining operation in which solved sudokus actually do count as legal tender.
- No matter what time of year it is, there will always exist some location in the world in which CtC videos are uploaded an hour off of the time you expect them to be.

Now it's your turn! Today's GAS is a true or lie sudoku. Normal sudoku rules apply. Also, some single-cell cages are given. The small digit indicated in a cage is either equal to, one greater than, or one less than the digit that actually belongs in that cell. (For instance, if a cage has a small "3" in its top left corner, then that cell can contain a 2, a 3, or a 4.)

Note for new solvers: 9 and 1 are not considered to be consecutive!

				²	²		⁴	
³	³	3				9	⁴	
	8		⁶				4	
					⁹			6
³		⁸		2		⁸		³
7			⁹					
	6				⁹		1	
	⁶	9				5	⁵	⁵
	⁶		⁴	⁴				

f-puzzles: <https://f-puzzles.com/?id=y6hmtvls>

CtC: <https://tinyurl.com/yckswy3s>

Penpa: <https://git.io/JMxMJ>

December 7, 2021: Classic Sudoku

Sam Cappleman-Lynes

Today's GAS is a Classic Sudoku. As always, normal Sudoku rules apply, and today that's it! I know that will disappoint some of you who prefer variant Sudoku, so feel free to add in as many or as few of the following variants as you feel comfortable with:

- this puzzle must be solved with your feet
- this puzzle must be solved in one breath
- this puzzle must be solved while standing on your head
- upon solving this puzzle, you must compliment a GAS setter

1	2	3	4				5	
5			6				1	4
7			3					
3	7	6	8	4	5	1		
			2			6		
			1			5		
			5	8	3	9		
8	3							
	9							

f-puzzles - <https://f-puzzles.com/?id=y6gx26vt>

CtC - <https://tinyurl.com/53aauwnh>

Penpa - <https://git.io/JDely>

December 8, 2021: US Duck Socials

Philip Newman

Oh no! While I was putting Sam's puzzle in the vault, I rolled over a leftover 9 and the puzzle bounced out of my knee scooter's basket! I picked up the pieces and tried to put it back together, but I don't think I did it quite right.

Today's GAS is another Classic Sudoku! (Now my threat to remove givens makes more sense... >_>)

Normal sudoku rules apply. And that's it!

	1	2	3	4				
	5				6		4	1
7								5
				3				
	3	7	6	8	4	5	1	
				2				
9								6
3	8		1				5	
				5	8	3	9	

Play on f-puzzles: <https://f-puzzles.com/?id=y5vscjyq>

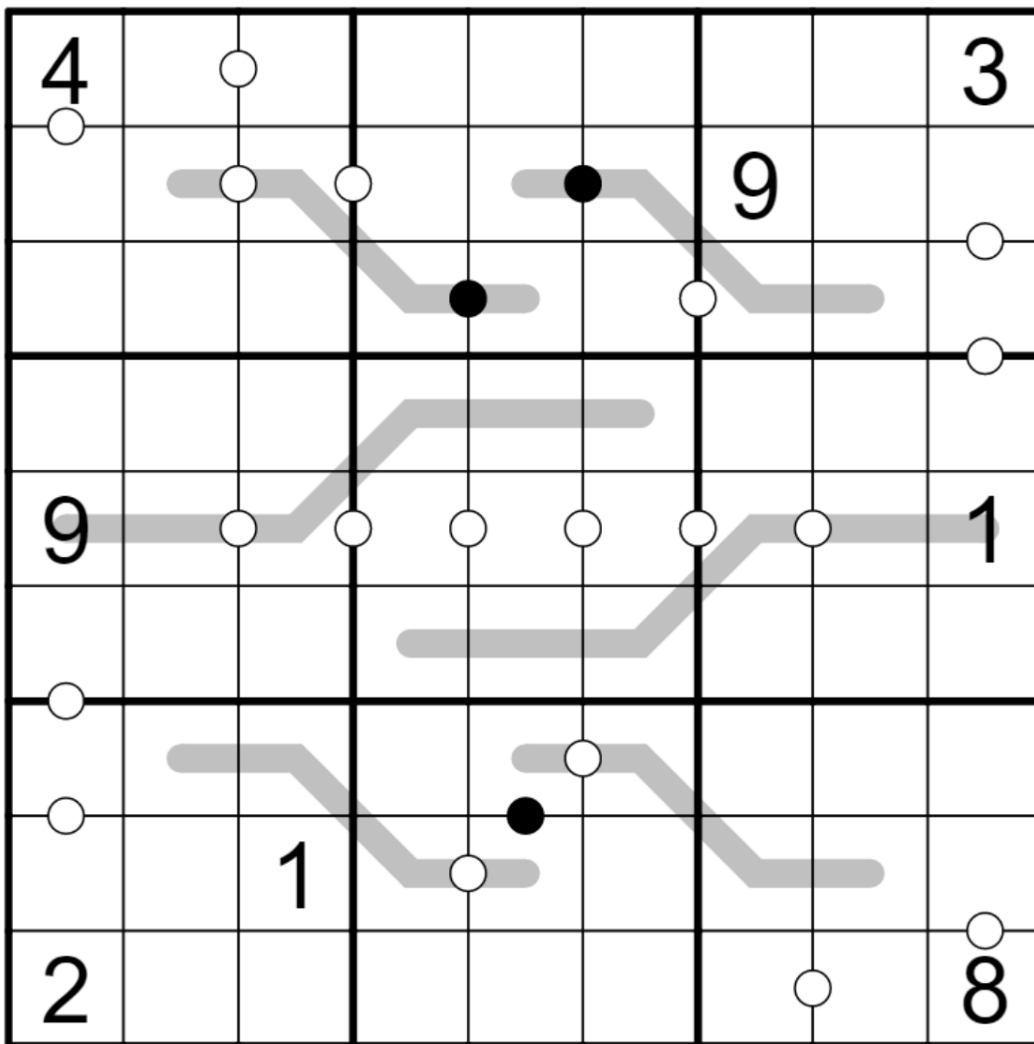
Play on CTC App: <https://tinyurl.com/25r9t8zk>

December 9, 2021: Kropkidrome

Clover

Goood afternoon and WELCOME TO THE THUNDERDOME KROPKIDROME, an arena where kropki and palindromes engage in a bare knuckle fight to the death peacefully coexist in the same puzzle! Sam and Philip are apparently boycotting funahem- variants, and so ~~two~~ variants enter, and ~~only one survives to emerge bloodied but triumphant!~~ it falls to me to give you two. Which I'm sure will get along with each other quite nicely.

- Normal sudoku rules apply.
- The sequence of digits along a grey line forms a palindrome: that is, each grey line reads the same forwards as backwards.
- Digits on either side of a white dot must be consecutive. Digits on either side of a black dot must be in a 1:2 ratio. Not all dots are necessarily given.



f-puzzles: <https://f-puzzles.com/?id=yyqel86e>

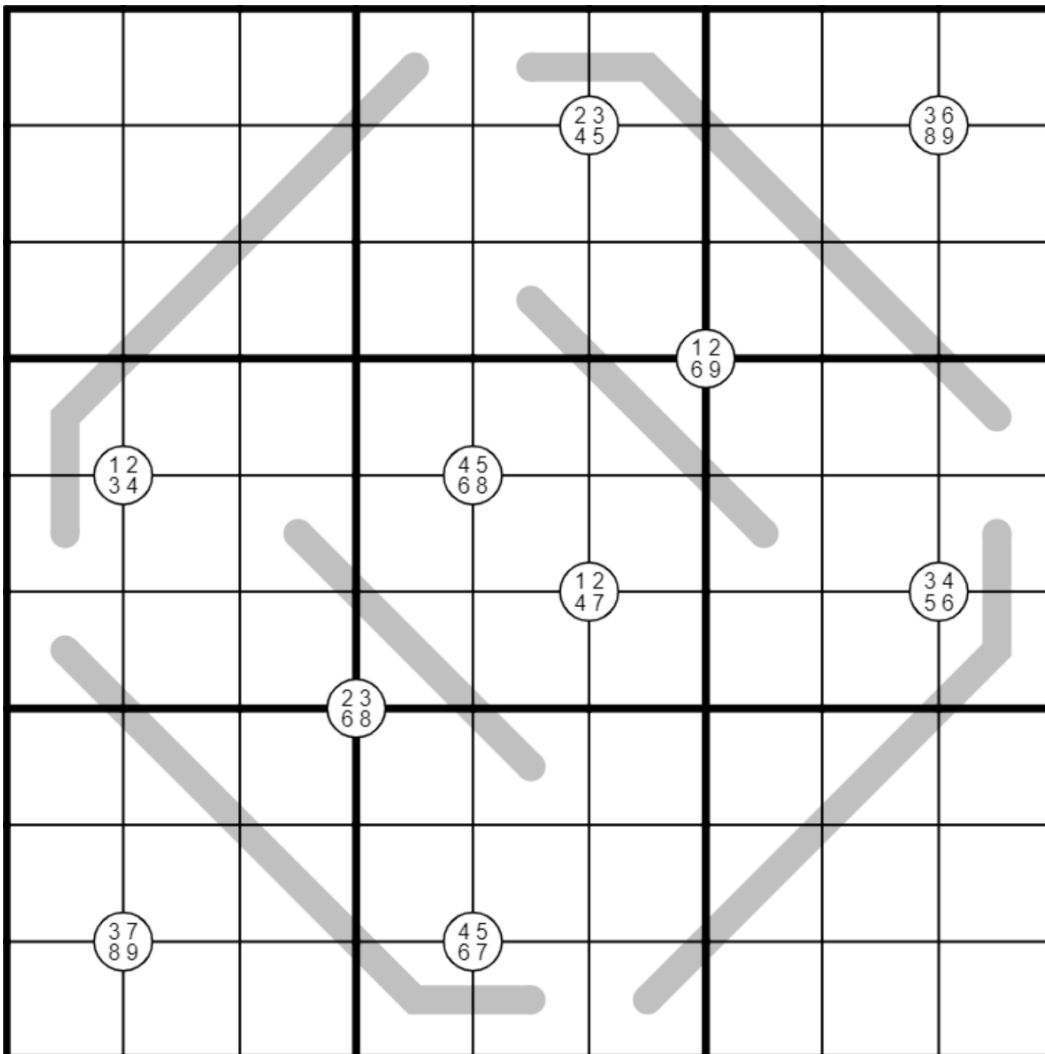
CtC: <https://tinyurl.com/2p9y8ut7>

December 10, 2021: Palindrome Quadruples

Sam Cappleman-Lynes

It was a ~~bare-knuckle fight~~ pleasant afternoon with a ~~gruesome finish~~ mutual respect between the two variants, but the winner of yesterdays Kropkidrome FIGHT TO THE DEATH peaceful coexistence is the palindrome! Today we have a new challenger waiting to prove its worth and show you all what it's made of...

Weighing in at 270 kilograms and with a top speed of over 60 miles per hour, it will take a lot to overcome the challenge brought by Quadruples. In this Palindrome Quadruples Sudoku, normal Sudoku rules apply. Numbers placed on a grey line must form a palindromic sequence; that is, they must read the same in both directions. The numbers appearing in a white circle must be placed somewhere in the four cells surrounding the circle.



f-puzzles - <https://f-puzzles.com/?id=y34anrf8>

CtC - <https://tinyurl.com/ytx3yat2>

Penpa - <https://git.io/JDYER>

December 12, 2021: Little Killer Arrow

Clover

A NEW CHALLENGER APPROACHES

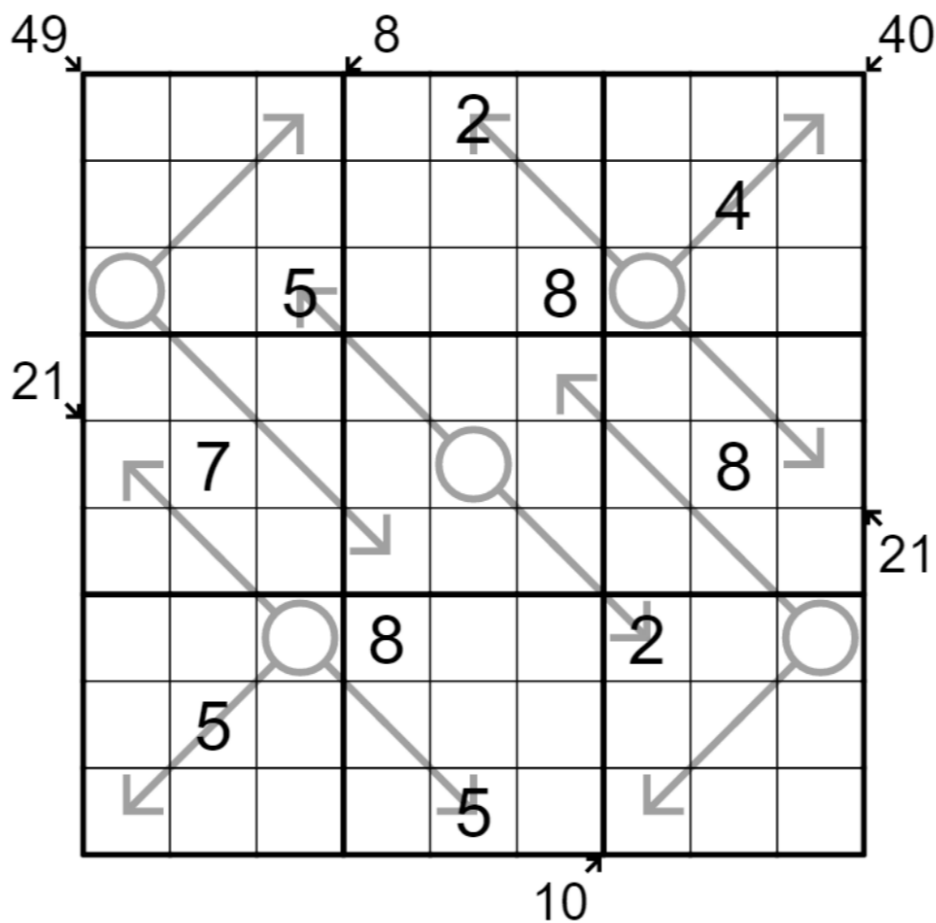
Consider, if you will, the humble arrow. Sharp it may be, but can it wield itself against an attacking horde? Alas, it cannot! What use is an arrow without a hand to pull back the bowstring and an eye to aim it true? The eye and the hand, perhaps, of a killer?

Just a little killer, though. The big killers were all too busy to play sudoku with us. 🙄

Normal sudoku rules apply.

Normal arrow rules apply: Digits along an arrow sum to the value in the attached bulb. Digits may repeat along an arrow, as long as they follow sudoku rules.

Normal little killer rules apply: Some diagonals are marked outside of the grid. Digits along a marked diagonal sum to the value given. Digits may repeat along a diagonal, as long as they follow sudoku rules.



f-puzzles: <https://f-puzzles.com/?id=y4mjv2cw>

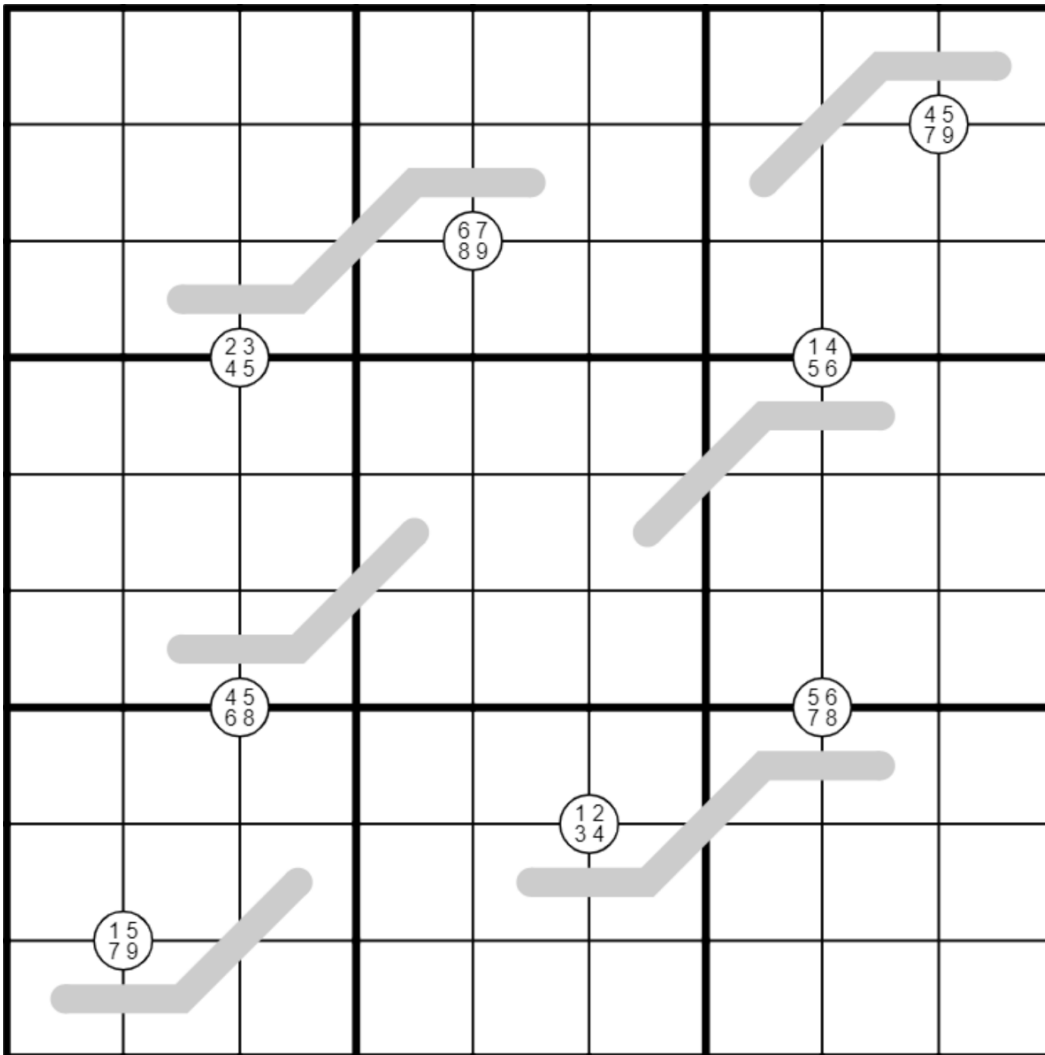
CtC: <https://tinyurl.com/nhzuphwa>

December 13, 2021: Renban Quadruples

Sam Cappleman-Lynes

Okay, that's enough violence. Today's GAS is another mashup between Quadruples and a line constraint, this time with Renban.

As always, normal Sudoku rules apply. Additionally, digits on a grey line must form a set of consecutive digits, in any order and digits in a white circle must appear somewhere in the four cells surrounding the circle.



f-puzzles - <https://f-puzzles.com/?id=y2mtodfh>

CtC - <https://tinyurl.com/hj5fu4xb>

Penpa - <https://git.io/JD40i>

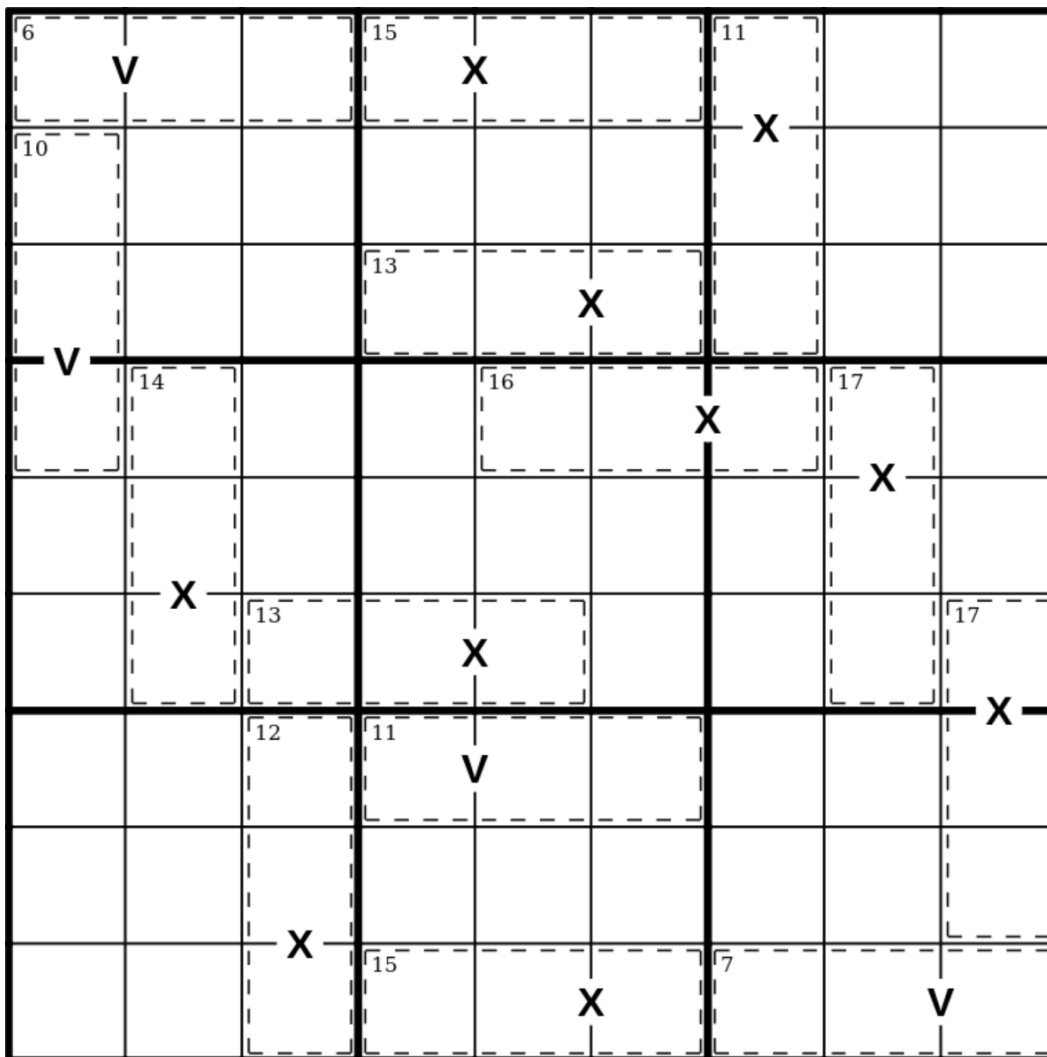
December 14, 2021: Ultimaton

Philip Newman

This puzzle would have been up hours ago while I was asleep, but @bakpao only just now tested it.

Today's GAS is a XV Killer Sudoku!

Normal sudoku rules apply. Digits in cages cannot repeat and must sum to the total given. Digits in cells separated by a V must sum to 5; digits in cells separated by an X must sum to 10. (No negative constraint - adjacent digits not separated by a letter can still sum to 5 or 10.)



Play on f-puzzles: <https://f-puzzles.com/?id=y593oibj>

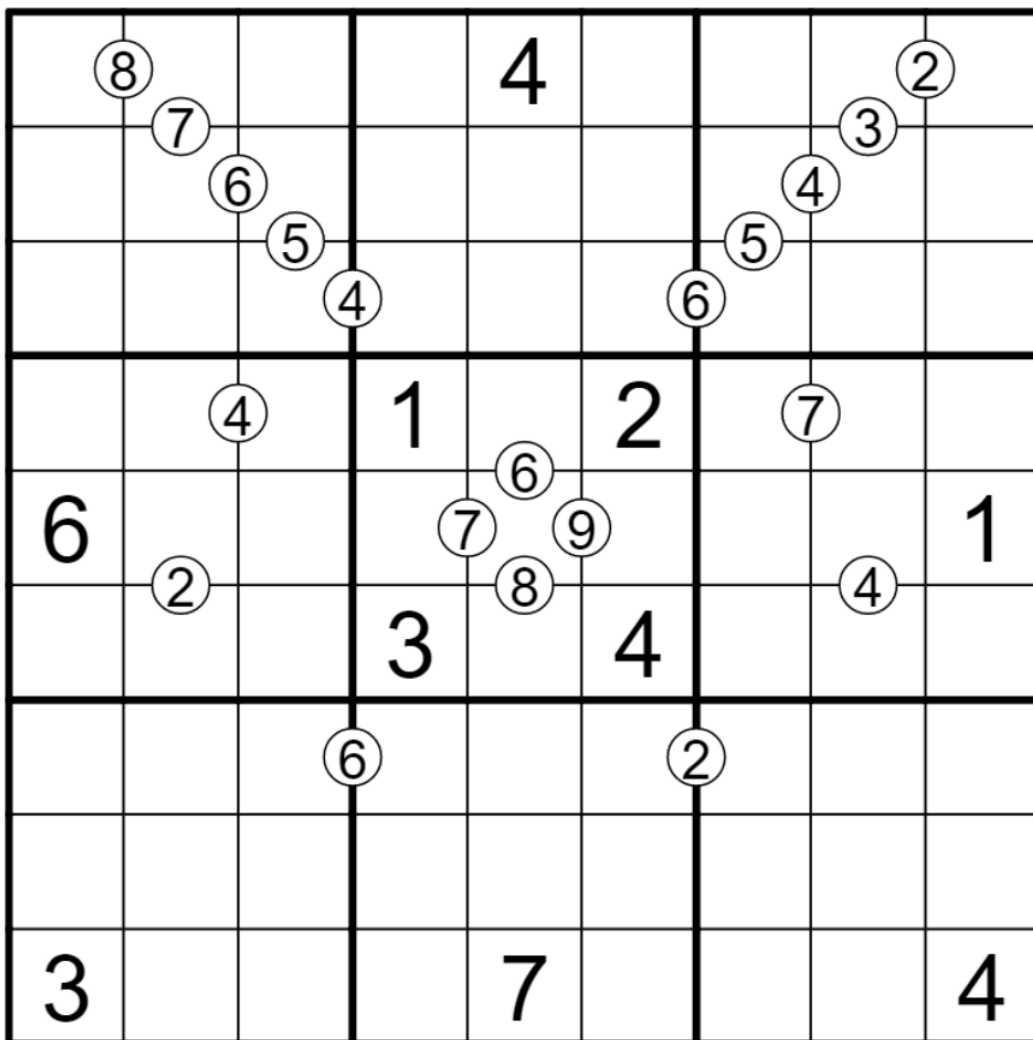
Play on CTC App: <https://tinyurl.com/2p9fwyc2>

December 15, 2021: Greater Sudoku

Clover

Just as birdwatchers are delighted to see a lesser spotted woodpecker (*Dryobates minor*), GAS solvers will thrill at a sighting of the rare greater sudoku (Numberplacechallenger major). This sudoku is known for its colorful plumage, which it uses both in mating displays and to fend off smaller sudokus, such as the speckled greaterthan and the long-necked maximin.

Normal sudoku rules apply. Also, a circled value between two cells gives the greater of the two digits appearing in those cells. For instance, if a circle between two cells contains a 4, then those cells might contain a 4 and a 3, or a 4 and a 2, or a 4 and a 1.



f-puzzles: <https://f-puzzles.com/?id=y5kmzsja>

CtC: <https://tinyurl.com/5dabncfy>

December 16, 2021: Diagonal Sudoku

Sam Cappleman-Lynes

Hello, solvers! Today's GAS is a Diagonal Sudoku! Hopefully the slanted lines in today's GAS won't put you on tilt (haha, geddit?), like they did for one of our testers 🤖

In Diagonal Sudoku, normal Sudoku rules apply. Additionally, each of the marked diagonals must contain a complete set of the digits 1-9.

	1	2		8	6			
		3						
			1	2	3		8	9
6	2							
3	5						7	2
							6	3
8	9		2	3	1			
						1		
			5	9		2	3	

f-puzzles - <https://f-puzzles.com/?id=y43d9q3x>

CtC - <https://tinyurl.com/mv5xkuh9>

Penpa - <https://git.io/JDwGl>

December 17, 2021: X-23

Philip Newman

Hi! My name is Philip, and I made the excellent decision to allow clover to ghostwrite my GAS into this morning!

I made a very nice puzzle for you! It's got clones in it or something. Clover isn't sure that she remembers which puzzle is getting attached to this post, but she's confident that I'll post the correct rules directly under this paragraph!

I mean under this paragraph, actually, in case you noticed that this paragraph doesn't seem to have puzzle rules - this one is actually the paragraph where we take a moment to appreciate clover for her hard work, charming puzzles, fabulous dress sense, and excellent taste in dinosaurs. Thanks, clover! I think you're great!

Today's GAS is an XV Pairs Clone Sudoku where I forgot to include V!

Normal sudoku rules apply. Orange regions are clones, and must contain the same digits in the same orientation. Digits in cells separated by an X must sum to 10. (No negative constraint - unmarked pairs of digits may sum to 10.)

1					x			2
x					5			
						x		
				9				
	x			5				
								x
4				x				3

Play on f-puzzles: <https://f-puzzles.com/?id=y5chq7ad>

Play on CTC App: <https://tinyurl.com/y86zhxv7>

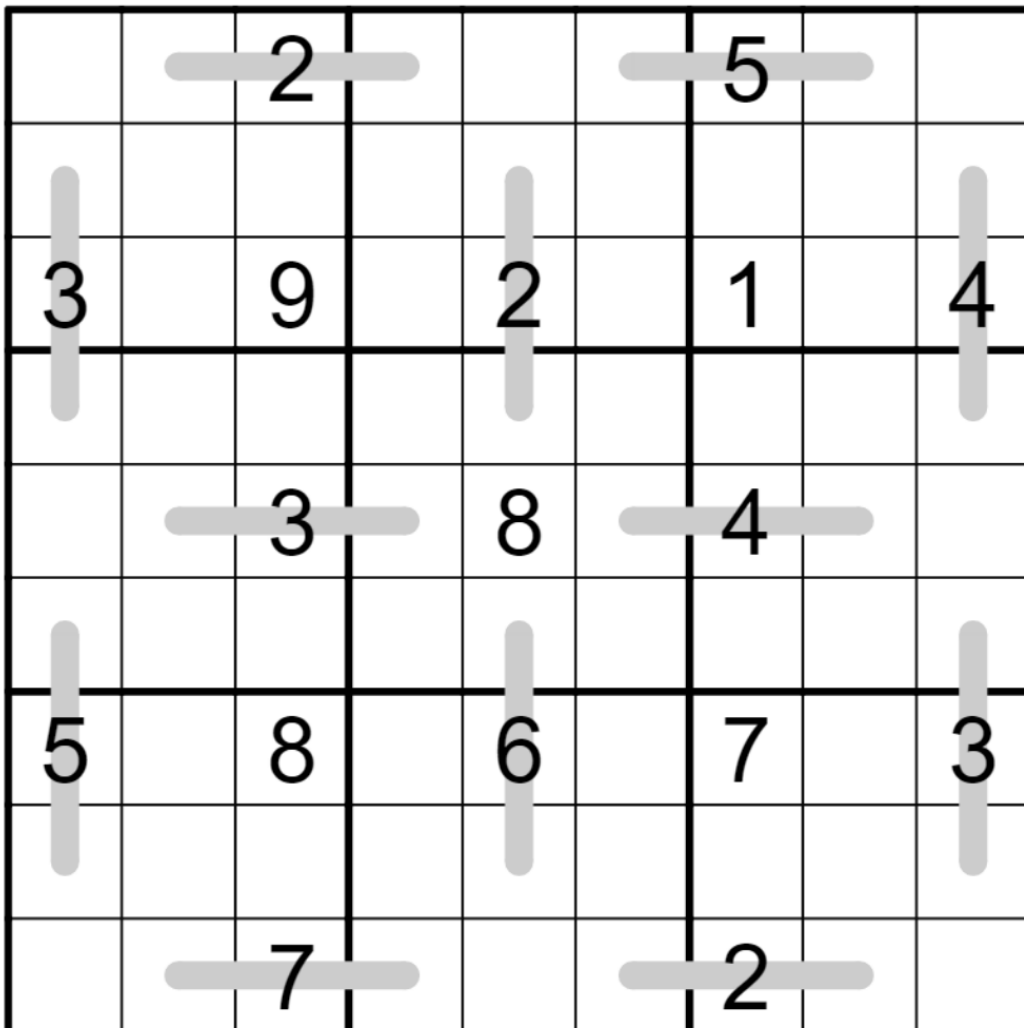
December 18, 2021: Average Sudoku

Clover

Whatever mode of solving you select, it'll be no mean feat to achieve an above-average performance on today's puzzle, if you know what I....median. 🤔 Today's GAS is an average sudoku!

Normal sudoku rules apply. Also, the digit in the central cell along a line must be the average (arithmetic mean) of the two digits in the cells on the ends of the line.

(Note for new solvers and/or unenthusiastic mathematicians: since you're only averaging two numbers, you can also think of the average as the midpoint between those two numbers. Also, no rounding is ever required in this puzzle - no decimals in sudoku!)



f-puzzles: <https://f-puzzles.com/?id=y2y6ggrm>

CtC: <https://tinyurl.com/5mr95yvc>

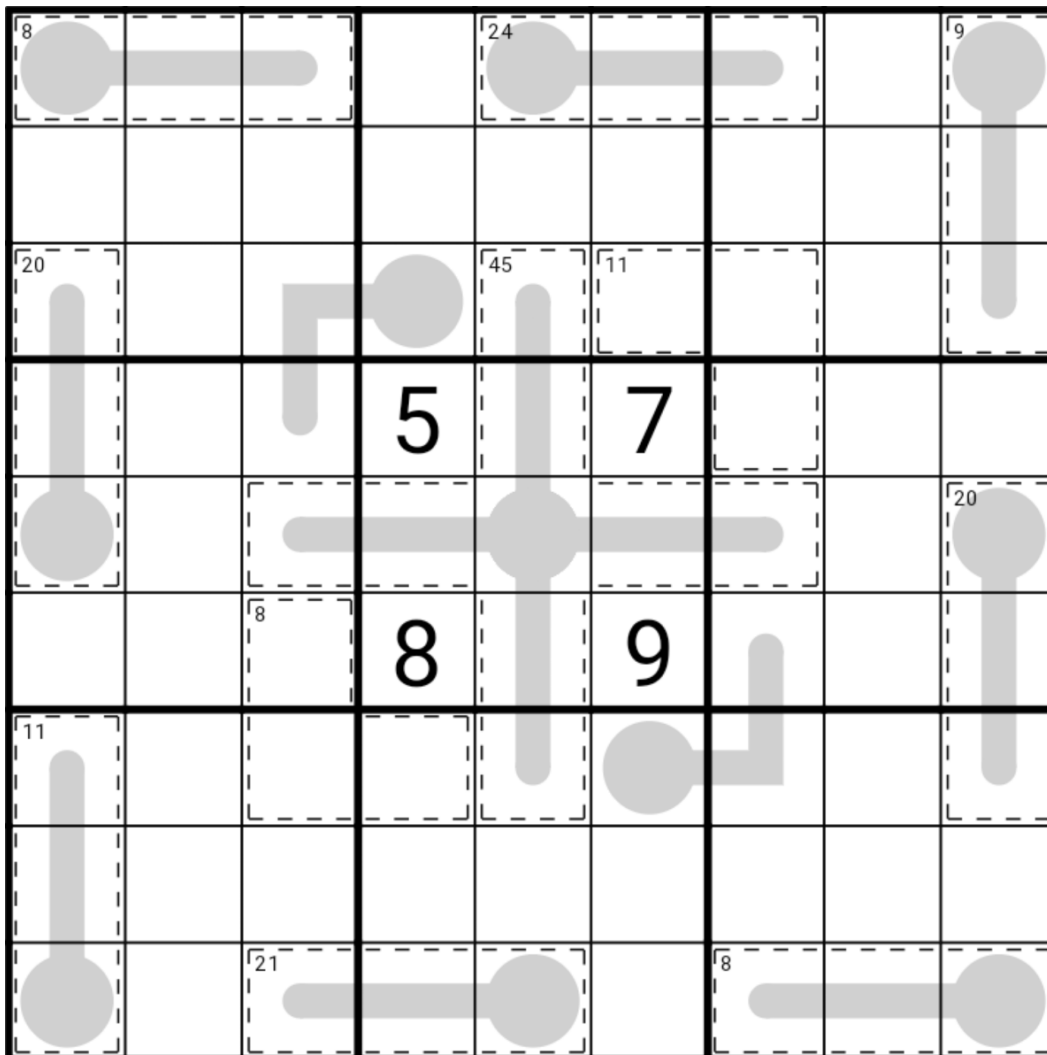
December 19, 2021: Thermo Killer

Sam Cappleman-Lynes

Today's GAS is a hybrid between two of the variants we use the most of here at GAS Setters Inc - Killer Sudoku and Thermo Sudoku.

Normal Sudoku rules apply. Digits in cages cannot repeat and must sum to the indicated total. Digits along a thermometer must strictly increase, starting from the bulb.

Editor's note: This GAS turned out to be one of the tougher ones we've posted, with very few solvers finishing within the two-hat time! A few days later, Sam posted a solution video, which you can find [here](#).



f-puzzles - <https://f-puzzles.com/?id=y4vhyofu>

CtC - <https://tinyurl.com/2s34msa9>

December 20, 2021: Wolverine

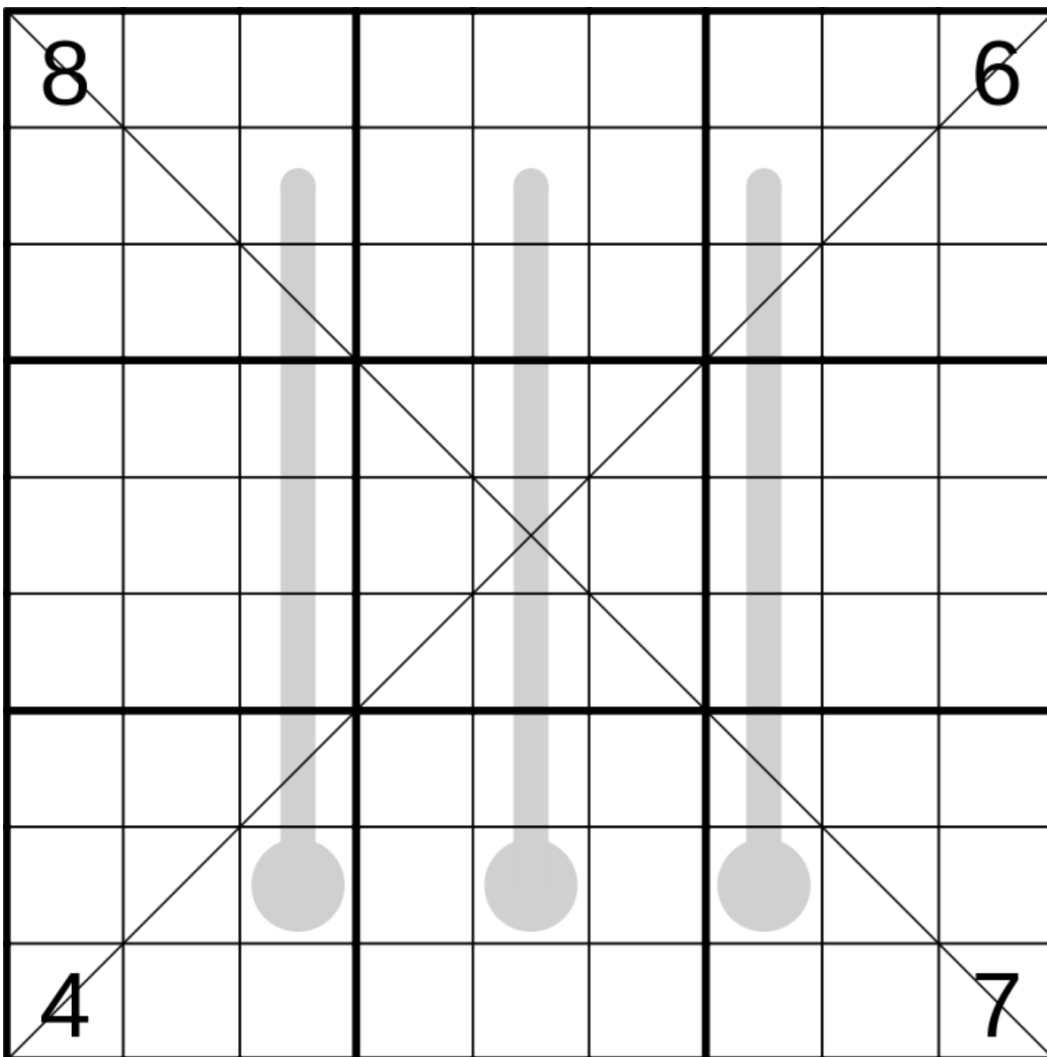
Philip Newman

I have an appointment (for my car, not my foot) this morning, which means two things:

1. Early GAS!
2. Short Intro!

Today's GAS is a Thermo Diagonal Sudoku!

Normal sudoku rules apply. Digits along thermometers must increase from bulb to tip.
Digits along the indicated diagonals cannot repeat.



Play on f-puzzles: <https://f-puzzles.com/?id=yfff9qea>

Play on CTC App: <https://tinyurl.com/2p8r447b>

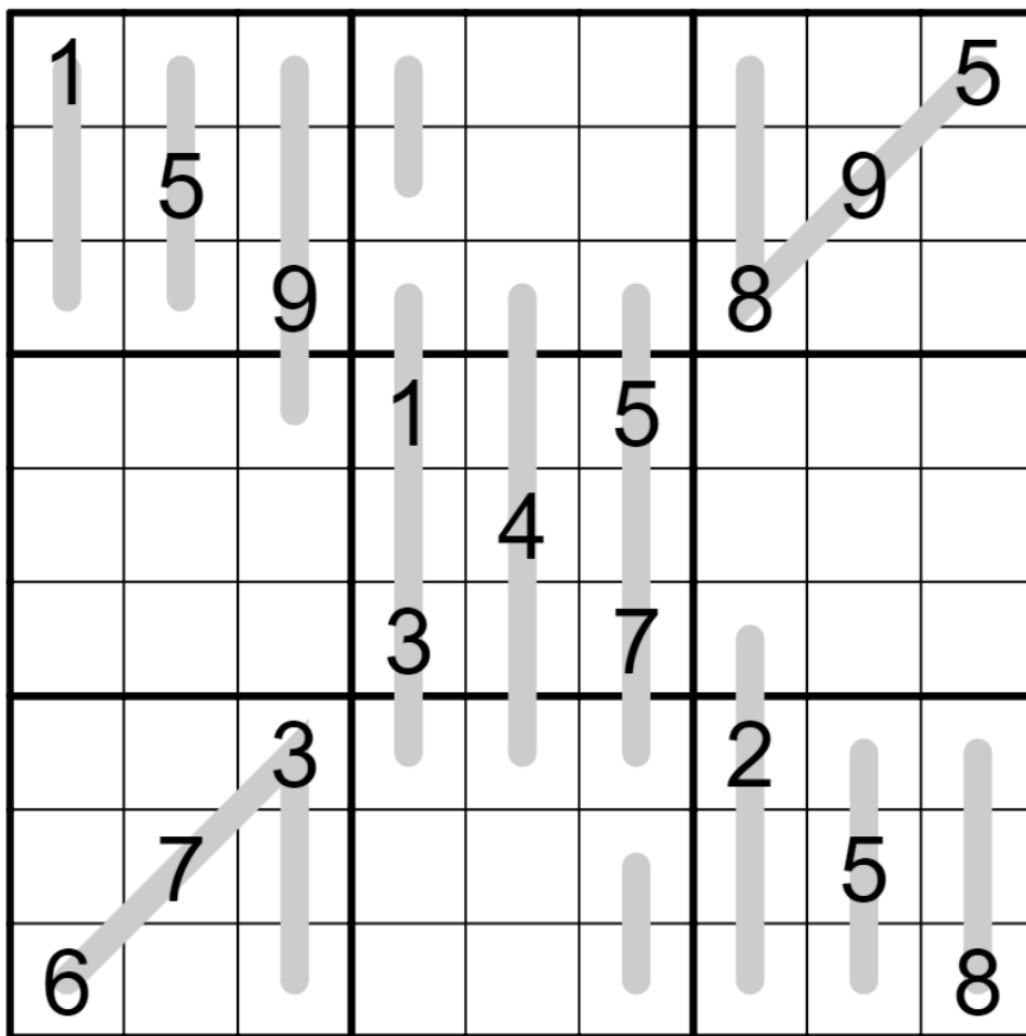
December 21, 2021: Renban

Clover

Good afternoon, friends! Today's GAS is a renban sudoku. "Renban," as you may not be aware, is French for "a puzzle with lines on which sets of digits appear which are consecutive, but which are not necessarily written in consecutive order."* Very concise language, French.

Normal sudoku rules apply. Each line contains a set of consecutive digits, such as 2, 3, 4, and 5. However, the digits along a line don't necessarily appear in consecutive order: for instance, a line might contain 3, 5, 2, 4 in that order.

*This is all lies.



f-puzzles: <https://f-puzzles.com/?id=y3d8b9sz>

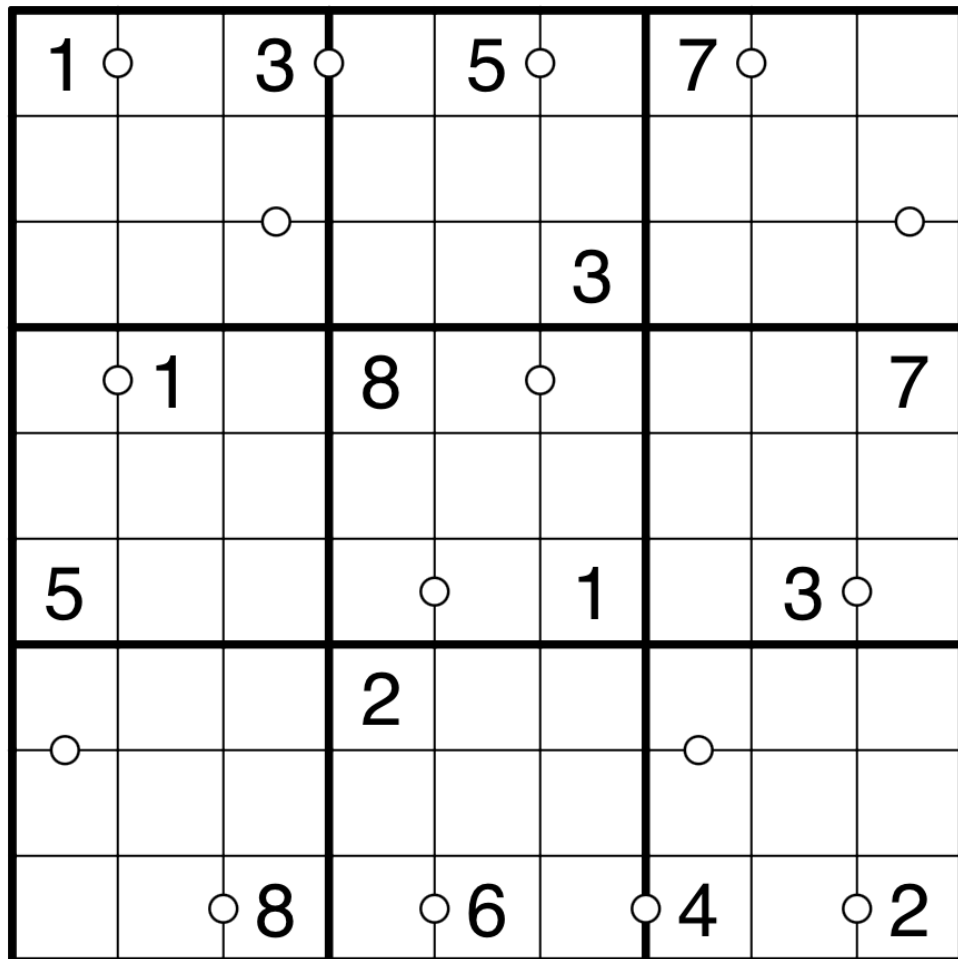
CtC: <https://tinyurl.com/2p8j8p9p>

December 22, 2021: Consecutive Pairs

Sam Cappleman-Lynes

Hello, solvers! Today's GAS is a Consecutive Pairs Sudoku. "Consecutive Pairs", as you may not be aware, is English for "a puzzle in which white dots separate pairs of digits that are consecutive but not all such pairs necessarily have a white dot between them". Very concise language, English.

To reiterate that for the sake of clarity: normal Sudoku rules apply. If two cells are separated by a white dot then they must contain consecutive numbers. Two cells without a white dot between them may or may not contain consecutive numbers.



f-puzzles - <https://f-puzzles.com/?id=2p84fm5n>

CtC - <https://tinyurl.com/2p948fj3>

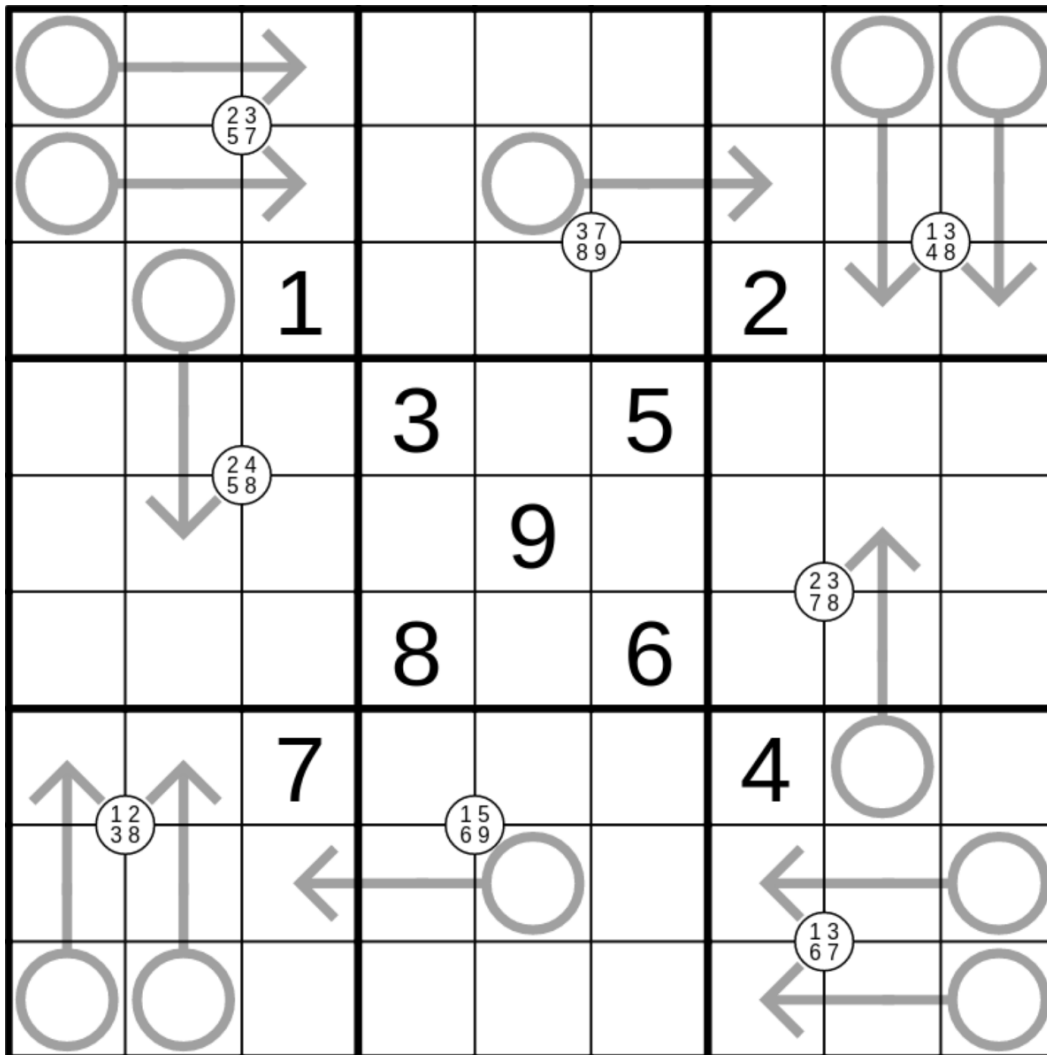
Penpa - <https://git.io/Jyfnv>

December 23, 2021: Hawkeye

Philip Newman

Hello, solvers! Today's GAS is an Arrow Quadruples Sudoku. "Arrow Quadruples", as you may not be aware, is German for "I don't speak German, I asked you to stop making me translate things for you". Very concise language, German.

Normal sudoku rules apply. Digits along arrows must sum to the circled total. Digits in corner circles must appear in the surrounding four cells, in some order.



Play on f-puzzles: <https://f-puzzles.com/?id=y59oa5bq>

Play on CTC App: <https://tinyurl.com/mwdn63pb>

Bonus 1: Odd Even Count

Clover

Normal sudoku rules apply.

An odd digit in a circle gives the total number of odd digits in the (up to) 8 cells surrounding that circle.

An even digit in a circle gives the total number of even digits in the (up to) 8 cells surrounding that circle.

				○				
	6		2		7		3	
		⑧				⑦		
	④		8		2		5	
				4				
	7		⑤		9		6	
		②				④		
	1		9		③		2	
				○				

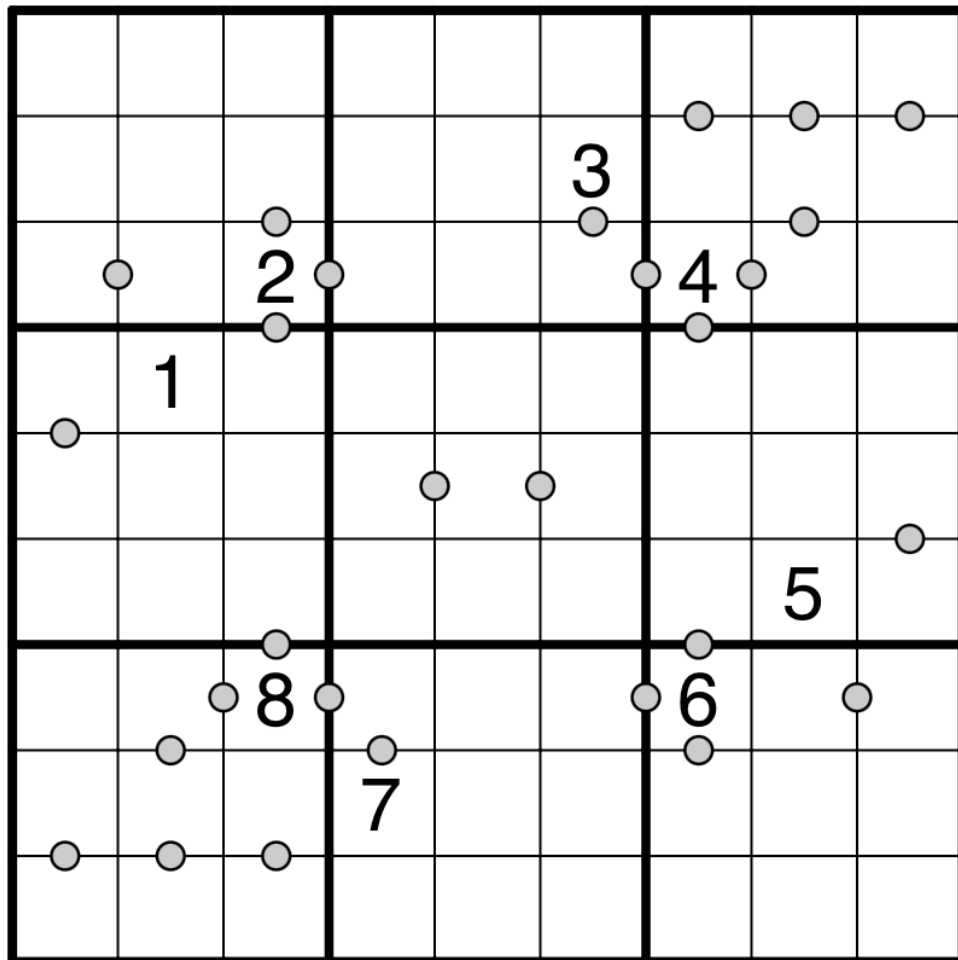
f-puzzles: <https://f-puzzles.com/?id=y4mv3bd6>

CtC: <https://tinyurl.com/2p94pww5>

Bonus 2: Multiples

Sam Cappleman-Lynes

Normal Sudoku rules apply. If two digits are separated by a grey dot, then one must be an exact multiple of the other. Not all possible grey dots are given.



f-puzzles: <https://f-puzzles.com/?id=yc69afke>

CtC: <https://tinyurl.com/25zkvcxk>

Penpa: <https://git.io/JD1w7>

Bonus 3: HO HO HO HO HO (No L)

Philip Newman

Normal sudoku rules apply. Digits in cages marked with an H must be High (6-9); digits in cages marked with an L must be Low (1-4); digits in cages marked with an O must be Odd (13579).

Editor's note: the lack of Ls in this grid is intentional (see title!)

H			O	7				
		H			O			
	H			O				
			H	8		O		
1	2	H			O			
		3	4			7	8	
				5	6			9

f-puzzles: <https://f-puzzles.com/?id=y3ktt2q>

CtC: <https://tinyurl.com/bwnskzsb>

Time Benchmarks

	One party hat	Two party hats	Today's dinosaur:
	14:00	8:00	well-written wakinosaurus
	18:00	9:00	bracketed brachytrachelopan
	11:00	6:00	mendacious massospondylus
	8:00	5:00	original oryctodromeus
	8:00	5:00	broke brontomerus
	14:00	8:00	bare-knuckle baryonyx
	14:00	8:00	battered becklespinax
	14:00	8:00	tapped-out tapuiasaurus
	14:00	8:00	recurve rahonavis
	14:00	8:00	serial saurophaganax
	10:00	5:00	xenomorph ic xinjiangtitan
	11:00	6:00	birdlike buitreraptor
	13:00	8:00	tilted telmatosaurus
	14:00	8:00	wolverinesque weaponized wintonotitan
	13:00	7:00	modish mamenchisaurus
	13:00	7:00	popular piatnitzkysaurus
	12:00	6:30	thermal thecodontosaurus
	11:00	6:00	polyglot prenocephale
	11:00	6:00	logophilic liliensternus
	12:00	6:00	transliterated turiasaurus